UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,302	07/31/2001	John David Sarlay	IEX 2051000	2503

7590 08/01/2003

Jack D. Stone, Jr.
CARR & STORM, L.L.P.
670 Founders Square
900 Jackson Street
Dallas, TX 75202

EXAMINER
HAFIZ, TARIQ R

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,302	SARLAY ET AL.	
	Examiner	Art Unit	
	Rebecca M Bachner	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

This is a Non-Final Office Action in response to the amendment submitted on May 13, 2003. Claims 1-36 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 14 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynolds in "The Science of Call Canter Management".

(Amended) As per claim 1, Reynolds discloses a method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

Propagating the forecasted contracts received in proportion to a propagation value assigned to each of a predetermined number of periods (see page 1, paragraphs 1 and 4, and page 2, paragraph 9, the forecasted contacts in propagated in response to a propagation value for a predetermined number of periods);

Forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 2, paragraph 2, the staffing requirements are forecasted); and

wherein one or both of the steps of propagating the forecasted contacts received and forecasting the staffing requirement are performed at least in part through one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

(Amended) As per claim 14, Reynolds discloses an apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

Means for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods (see page 1, paragraphs 1 and 4, and page 2, paragraph 9, the forecasted contacts in propagated in response to a propagation value for a predetermined number of periods);

Means for forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 2, paragraph 2, the staffing requirements are forecasted); and

Wherein one or both of the means for propagating the forecasted contracts received and forecasting the staffing requirement comprise one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

(Amended) As per claim 26, Reynolds discloses a computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of

a contact type, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

a computer program code for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods (see page 1, paragraphs 1 and 4, and page 2, paragraph 9, the forecasted contacts in propagated in response to a propagation value for a predetermined number of periods);

Computer program code for forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 2, paragraph 2, the staffing requirements are forecasted); and

Wherein one or both of the computer program code for propagating the forecasted contacts received and evaluating the staffing requirement are executed at least in part through one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-13, 15-25, and 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds in "The Science of Call Canter Management" in view of Blue Pumpkin.

(Amended) As per claim 7, Reynolds discloses a method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

Upon a determination that the contact type is an immediate contact type, calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 1, paragraphs 1 and 4, and page 2, paragraphs 2 and 6-9, the staffing requirement is calculated for a predetermined number of periods); and

Wherein one or more of the step of determining and the steps of calculating the staffing requirements are performed at least in part through one ore more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

However, Reynolds does not explicitly disclose determining whether the contact type is an immediate contact type or a non-immediate contact type. However, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3). Reynolds also does not explicitly disclose propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and

calculating the staffing requirement necessary to handle the propagated forecasted contacts received for a non immediate contact type. However, Reynolds teaches propagating forecasted contacts for immediate contact types (see page 1, paragraphs 1 and 4) and also calculating the staffing requirement for a non-immediate contact (see page 1, paragraph 2). It is well known to forecast the amount of contacts received to determine staffing for non-immediate contact types. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose determining non-immediate contact types, propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and calculating the staffing requirement necessary to handle the propagated forecasted contacts received for a non immediate contact type as would have allowed Reynolds system to efficiently handle various types of contacts with the most cost effective staff.

(Amended) As per claim 13, Reynolds discloses a method for determining the total, non-immediate, multimedia contacts in a period within a range, comprising, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the step of determining whether the current period can received allocations and, upon a determination that the current period can receive allocations, performing for each past period affecting the current period the substeps of:

Calculating the "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period (see page 1, paragraph 1 and 4, and page 2, paragraphs 4-5, the calculated total contacts is determined by the forecasted contacts, the service goal, and the time period);

Wherein one or more of the substeps of calculating the "total contacts or propagate from past period", calculating a "contacts propagated to current period", and summing are performed at least in part through one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

Reynolds does not explicitly disclose calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period, and summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types. However, it is old and well known to determine the number of contacts in a certain period and that the contacts propagated to a current period is the propagation value of the first period divided by the past period. It is also old and well known to sum the contracts for a current period to determine staff scheduling. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose calculating a "contacts to propagated to current period" and summing the "contacts propagated to current period" into the "total contacts to handle in

current period" for all contact types as it allows Reynolds to accurately and efficiently determine staff scheduling.

(Amended) As per claim 20, Reynolds discloses an apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

Upon a determination that the contact type is an immediate contact type, means for calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 1, paragraphs 1 and 4, and page 2, paragraphs 2 and 6-9, the staffing requirement is calculated for a predetermined number of periods); and

Wherein one or more of the means for determining and the means for calculating the staffing requirement comprise one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

However, Reynolds does not explicitly disclose a means for determining whether the contact type is an immediate contact type or a non-immediate contact type. However, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3). Reynolds also does not explicitly disclose a means for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and a means for calculating the staffing requirement

necessary to handle the propagated forecasted contacts received for a non immediate contact type. However, Reynolds teaches propagating forecasted contacts for immediate contact types (see page 1, paragraphs 1 and 4) and also calculating the staffing requirement for a non-immediate contact (see page 1, paragraph 2). It is well known to forecast the amount of contacts received to determine staffing for non-immediate contact types. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose determining non-immediate contact types, propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and calculating the staffing requirement necessary to handle the propagated forecasted contacts received for a non immediate contact type as would have allowed Reynolds system to efficiently handle various types of contacts with the most cost effective staff.

(Amended) As per claim 25, Reynolds discloses an apparatus for calculating the total, non-immediate, multimedia contacts in a period within a range, comprising, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the apparatus comprising means for determining whether the current period can receive allocations and, upon a determination that the current period can receive allocations, for each past period affecting the current period:

means for calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent"

for the past period (see page 1, paragraph 1 and 4, and page 2, paragraphs 4-5, the calculated total contacts is determined by the forecasted contacts, the service goal, and the time period);

wherein one or more of the mans for calculating the "total contacts of propagate from past period", calculating a "contacts propagated to current period", and summing comprise one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

Reynolds does not explicitly disclose a means for calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period, and a means for summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types. However, it is old and well known to determine the number of contacts in a certain period and that the contacts propagated to a current period is the propagation value of the first period divided by the past period. It is also old and well known to sum the contracts for a current period to determine staff scheduling. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose calculating a "contacts to propagated to current period" and summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types as it allows Reynolds to accurately and efficiently determine staff scheduling.

(Amended) As per claim 31, Reynolds a computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

Upon a determination that the contact type is an immediate contact type, computer program code for calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 1, paragraphs 1 and 4, and page 2, paragraphs 2 and 6-9, the staffing requirement is calculated for a predetermined number of periods); and

Wherein one or more of the computer program code for determining and the computer program code for calculating the staffing requirement are executed at least in part through one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

However, Reynolds does not explicitly disclose computer program code for determining whether the contact type is an immediate contact type or a non-immediate contact type. However, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3). Reynolds also does not explicitly disclose a computer program code for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and a computer program code for calculating the staffing requirement necessary to handle the propagated forecasted contacts received for a non immediate contact type. However, Reynolds teaches propagating forecasted

contacts for immediate contact types (see page 1, paragraphs 1 and 4) and also calculating the staffing requirement for a non-immediate contact (see page 1, paragraph 2). It is well known to forecast the amount of contacts received to determine staffing for non-immediate contact types. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose determining non-immediate contact types, propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods and calculating the staffing requirement necessary to handle the propagated forecasted contacts received for a non immediate contact type as would have allowed Reynolds system to efficiently handle various types of contacts with the most cost effective staff.

(Amended) As per claim 36, Reynolds discloses a computer program product for calculating the total, non-immediate, multimedia contacts in a period within a range, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

computer program code calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period (see page 1, paragraph 1 and 4, and page 2, paragraphs 4-5, the calculated total contacts is determined by the forecasted contacts, the service goal, and the time period);

wherein one or more of the computer program code of calculating the "total contacts to propagate from past period", calculating a "contacts propagated to current period", and summing are performed at least in part through one or more processing devices (see page 1, paragraph 2, and the figures on page 2, the staffing requirements are forecasted using a processing device).

Reynolds does not explicitly disclose a computer program code for determining whether the current period can receive allocations and, upon a determination that the current period can receive allocations, performing for each past period affecting the current period, a computer program code for calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period, and a computer program code for summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types. However, it is old and well known to determine whether the current period can receive allocations and whether the number of contacts in a certain period and the contacts propagated to a current period is the propagation value of the first period divided by the past period. It is also old and well known to sum the contracts for a current period to determine staff scheduling. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose calculating a "contacts to propagated to current period" and summing the "contacts propagated to current period" into the "total contacts to handle in

current period" for all contact types as it allows Reynolds to accurately and efficiently determine staff scheduling.

As per claims 2, 8, 15, 21, 27, and 32, Reynolds discloses claims 1, 7, 14, 20, 26, and 31. Reynolds does not explicitly disclose wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average speed of answer, and a customer distribution. However, it is old and well known in the art to use a propagation value that achieves a type of curve. The curves mentioned above are old and well known in the art of statistical analysis and statistical analysis on historical data is commonly used in call centers. For example, A First Course in Business Statistics by McClave and Benson teaches a bell (or normal) curve distribution (see pages 207-209). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a propagation value that achieves a specific type of curve as it allows Reynolds to more easily analyze the data and determine an accurate forecast of future contacts.

As per claims 3, 9, 16, 22, 28, and 33, Reynolds discloses claims 1, 7, 14, 20, 26, and 31, wherein the step of propagating the forecasted contacts received. Reynolds discloses calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 1, paragraphs 1 and 4, and page 2, paragraphs 2 and 9, the staffing requirements are calculated to handle the forecasted contacts).

Reynolds also discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement and historical information is propagated to determine future forecasts for a specific period of time. Reynolds also discloses calculating "contacts to propagated from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period (see page 1, paragraph 1 and 4, and page 2, paragraphs 4-5, the calculated total contacts is determined by the forecasted contacts, the service goal, and the time period). Reynolds does not explicitly disclose determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and allocating the forecasted contacts received to the current period by the substeps of: summing the propagation values from each period that can receive allocations; calculating "contacts to propagate to the current period" as the product of the "contacts to propagate from the past period: and the quotient of the propagation value of the current period divided by the sum of the propagation values; and allocating the "contacts to propagate to the current period" to the current period. However, it is well known to use all of the steps mentioned above to determine an accurate forecast for staffing needs. The Summing of the propogation values, the calculating the propagated contact to the current period a the allocating of the propagated contacts are all necessary steps in determining the amount of staff needed to handle future contacts. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to disclose determining which periods can receive allocations for the contact type, allocating the forecasted contacts received to the current period by summing the

propagation values, calculating "contacts to propagate to the current period", and allocating the "contacts to propagate to the current period" to the current period as it would have allowed Reynolds system to efficiently handle the various contacts with the most cost effective staff.

As per claims 4, 10, and 17, Reynolds discloses claims 1, 7, and 14. Reynolds also disclosed calculating the staffing requirement. Reynolds did not explicitly disclose the step of calculating the staffing requirement for the current period is performed with reference to "ContactsHandled," AHTinSeconds," and SecondsInStatPeriod". However, it is old and well known in the art to determine a staffing schedule using variables such as contacts handled and the time it took for them to be handled. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have named the variables determining the staffing period "ContactsHandled," AHTinSeconds," and SecondsInStatPeriod" as these values are needed to determine the staffing requirements of the contact center.

As per claims 5, 11, 18, 23, 29, and 34, Reynolds discloses claims 1, 7, 14, 20, 26, and 31. Reynolds also disclosed calculating the staffing requirement. Reynolds did not explicitly disclose the step of calculating the staffing requirement for the current period is performed according to the equation:

Staffing Requirement = (ContactsHandled * AHTinSeconds)/SecondsInStatPeriod wherein: "ContactsHandled" is equivalent to the "contacts to propagate to the current period"; "AHTinSeconds" is the handling time for the contact type; and "Seconds InStatPeriod" is the length in seconds of the current period. However, it is old and well known in the art of call centers to determine a staffing requirement by multiplying the number of contacts handled by the handling time for each contract and dividing by the length of the current period. Therefore, it would have been obvious to one of ordinary skill in the art to used the equation StaffingRequirement = (ContactsHandled*AHTinSeconds)/SecondsInStatPeriod, as it allows Reynolds to determine how many people need to be staffed in the contact center for a particular period.

As per claims 6, 12, 19, 24, 30, and 35, Reynolds discloses claims 5, 11, 18, 23, 29, and 34. However, Reynolds does not explicitly disclose wherein the staffing requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100. However, it is old and well known in the art to divide a percent by 100 to determine a value (for example .3*100 is 3%). Therefore, it would have been obvious to have Reynolds disclose the staffing requirement to further divide by the quotient of a maximum occupancy goal percent divided by 100 as this returns a number, rather than a percentage, to determine the staffing requirement.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hollman, Lee. "Keeping on Schedule with Workforce Management Software." Call Center Magazine. April 2001. Vol. 14. Iss. 4. Pg. 70. discloses using historical data to determine staffing needs.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Rebecca Bachner** whose telephone number is 703-305-1872. The examiner can normally be reached on Monday - Friday from 8:30am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Tariq Hafiz** can be reached on **(703)305-9643**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 308-1113**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington D.C. 20231

or faxed to:

(703) 305-7687 Official communications; including After Final communications labeled "Box AF"

(703) 746-7306 Informal/Draft communications, labeled "PROPOSED" or " DRAFT"

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

RMB
July 24, 2003

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600